

VI. The Extract of another Letter from Mr. Anthony Van Leuwenhock, to the Royal Society ; Concerning the difference of Timber growing in different Countries, and felled at different Seasons of the Year.

1. *A*s to the difference of Timber felled in Winter from that felled in the Summer, the common Opinion is, that the former is the stronger, and more lasting, as being more close and firm ; but his own Sentiment is, that there is no difference, except in the Bark and outermost Ring of the Wood, which in the Summer are softer, and so more easily pierced by the Worm. Wood consisting of hollow Pipes, which in Summer and Winter both are full of Moisture, they do not shrink in the Winter, and therefore the Wood cannot be closer at one time than another, for otherwise it would be full of cracks and clefts. The sudden and unexpected Rotting of some Timber, he conceives to proceed from some inward decay in the Tree before it was felled, having observed all Trees to begin to decay at first in the midst or Heart of the Tree, though possibly the Tree may stand and grow for near an Hundred Years afterwards, and increase in bigness all along.

2. He says, he was once of Opinion, That Trees growing in good Ground, but increasing slowly, were the best and strongest Timber ; and that those Trees which in few Years grew large, was the softest and brittlest ; the contrary to which upon Enquiry of Experienced Workmen he found to be true, and instances in an Elm of Eighty Years growth, which was Eleven Foot in Circumference, and proved excellent tough Timber.

3. The Age of Trees is to be known by the number of Rings to be seen when the Tree is cut a-thwart, in each of which Rings is one Circle of large open Pipes: now the fewer of these large Pipes, the stronger the Timber is, wherefore by consequence those Trees that make the largest growth in a Year, must be the closer and stronger; and therefore those Trees that grow in warm Countries grow fastest, and are the best and toughest Timber, which he confirms by *Riga* and *Dant-zick* Oak, which is of slow growth, and proves Spongy and brittle Timber; whereas the contrary is observable in *English* and *French* Oak, which grows faster, and is excellent Timber.

Fig. † Represents a piece of Oak of 12 Years growth cut Horizontally, where from the Centre *A* to *B* is one years growth, *C* two years, *D* three years, and so on; in all $2\frac{1}{2}$ Inches, so that the Tree in 12 years was $4\frac{1}{2}$ Inches Diameter. Whereas about *Riga* it would be 30 or 40 Years ere it grow to that bigness. Some of these Circles are broader than others, particularly the Ninth, the Tree from some accidental Cause receiving more Nourishment, and growing faster that Year than the former. He says, he examined a piece of Ash growing in *Norway*, and found it grew 44 years before its Semi-diameter was one Inch; whereas Ash growing about *Delft* has been observed to increase an Inch yearly for several years together.